

AMENDMENTS TO THE CLAIMS:

Please replace the Abstract with the substitute Abstract attached hereto on a separate sheet.

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1-25. (Canceled).

26. (Previously Presented) Method for extracorporeal treatment of blood comprising the following steps:

preparing a treatment liquid from a liquid, such as water, and two concentrated solutions, comprising the following steps:

circulating the liquid in a preparation conduit, at a flowrate Q0,
injecting into the preparation conduit, at a flowrate Q1, a first concentrated solution containing at least a first ionic substance A and a second ionic substance B, the ionic substance B having, in the first concentrated solution, a first concentration,

injecting into the preparation conduit, at a flowrate Q2, a second concentrated solution containing at least the first ionic substance A, the second ionic substance B having, in the second concentrated solution, a second concentration [B2sol] different than the first concentration [B1sol] in the first concentrated solution, and

regulating the injection flowrate Q1 of the first concentrated solution and the injection flowrate Q2 of the second concentrated solution in such a way that at any given time the diluted solution resulting from the mixing of the liquid and the

concentrated solutions has a desired concentration [A_{des}] of the first ionic substance A and a desired concentration [B_{des}] of the second ionic substance B;

supplying the treatment liquid to an inlet of a membrane exchanger;

removing a spent liquid from an outlet of the membrane exchanger;

measuring the concentration of the second ionic substance B in the treatment liquid; and

measuring the concentration of the second ionic substance B in the spent liquid,

wherein the injection flowrates Q1 and Q2 are regulated on the basis of the concentrations of the second ionic substance B measured in the treatment liquid and in the spent liquid.

27. (Previously Presented) Method according to Claim 26, characterized in that the injection flowrates Q1 and Q2 are regulated on the basis of a difference between the concentrations of the second ionic substance B measured in the treatment liquid and in the spent liquid.

28. (Previously Presented) Method according to Claim 27, characterized in that the injection flowrates Q1 and Q2 are regulated in such a way that the difference between the concentrations of the second ionic substance B measured in the treatment liquid and in the spent liquid remains substantially equal to a given value.

29. (Previously Presented) Method according to Claim 26, characterized in that the first ionic substance A has, in the second concentrated solution, a same concentration [A_{sol}] as in the first concentrated solution.

30. (Previously Presented) Method according to Claim 26, further comprising the step of infusing a patient with a third solution containing at least a third ionic substance C absent from the treatment liquid.

31. (Previously Presented) Method according to Claim 30, characterized in that the third ionic substance C is bicarbonate.

32. (Canceled).

33. (Previously Presented) System for extracorporeal treatment of blood, comprising:

a device for preparing a treatment liquid from a liquid, such as water, and two concentrated solutions, comprising:

a preparation conduit with a first end intended to be connected to a source of liquid, such as water, and a second end for delivering a treatment liquid,

first injection means for injecting into the preparation conduit, at a flowrate Q1, a first concentrated solution containing at least a first ionic substance A and a second ionic substance B, the second ionic substance B having, respectively, in the first concentrated solution, a first concentration [B1sol],

second injection means for injecting into the preparation conduit, at a flowrate Q2, a second concentrated solution containing at least the first ionic substance A, the second ionic substance B having, in the second concentrated solution, a second concentration [B2sol] different than the first concentration [B1sol] in the first concentrated solution, and

means for regulating the first and second injection means and for adjusting the injection flowrate Q_1 of the first concentrated solution and the injection flowrate Q_2 of the second concentrated solution in such a way that at any given time the diluted solution resulting from the mixing of the liquid and the concentrated solutions has a desired concentration $[A_{des}]$ of the first substance A and a desired concentration $[B_{des}]$ of the second substance B;

a supply conduit for supply of treatment liquid, for connecting the preparation conduit of the treatment device to an inlet of a membrane exchanger;

a removal conduit for removing spent liquid, intended to be connected to an outlet of the membrane exchanger;

a first device for measuring the concentration of the second ionic substance B in the treatment liquid, arranged on the preparation conduit; and

a second device for measuring the concentration of the second ionic substance B in the spent liquid, arranged on the removal conduit,

wherein the regulating means is provided for regulating at least one of the first and second injection means on the basis of information supplied by the first and second devices for measuring the concentration of the second ionic substance B.

34. (Previously Presented) Treatment system according to Claim 33, characterized in that the first ionic substance A has, in the second concentrated solution, a same concentration $[A_{sol}]$ as in the first concentrated solution.

35. (Previously Presented) Treatment system according to Claim 34, characterized in that the two said concentrated solutions are identical to each other

except that the concentration of the second ionic substance B differs from one solution to the other.

36. (Previously Presented) Treatment system according to Claim 33, characterized in that the regulating means is provided for varying over the course of time at least one of the injection flowrate Q1 and the injection flowrate Q2 of the concentrated solutions A and B in such a way that the concentration of the second substance B in the diluted solution varies over the course of time in accordance with a predetermined profile.

37. (Previously Presented) Treatment system according to Claim 33, characterized in that the regulating means is provided for varying over the course of time at least one of the injection flowrate Q1 and the injection flowrate Q2 of the concentrated solutions A and B in such a way that the concentration of the first substance A in the diluted solution varies over the course of time in accordance with a predetermined profile.

38. (Previously Presented) Treatment system according to Claim 33, characterized in that the regulating means is provided for maintaining constant the sum of the injection flowrates $Q1 + Q2$ of the concentrated solutions A and B, in such a way that, for a constant flowrate Q0 of the liquid in the conduit, the concentration of the first substance A in the diluted solution remains substantially constant.

39. (Previously Presented) Treatment system according to Claim 33, further comprising means for infusing a patient with a third solution containing at least one ionic substance C absent from the treatment liquid.

40. (Previously Presented) Treatment system according to Claim 39,
characterized in that the substance C is bicarbonate.

41-43. (Canceled).